1992

ANNUAL INDEX

Electronics NOW® Volume 63

1992 Annual Index Electronics Now, Volume 63

Abbreviations: (ARE)Ask R-E; (AUD)Audio Update, (C)Construction; (CC)Computer Connections; (D)Department; (DB)Drawing Board; (ED)Editorial; (ER)Equipment Reports; (HH)Hardware Hacker; (LTR)Letters; (QA)Q&A; (VN)Video News; (WN)What's News

250-Watt Power Inverter (Melton)(C) Oct 75
10 50-ohm Termination (QA) Dec 12
555
Oscillators (Marston) Nov 61
A Versatile Oscillator (Marston) Oct 69
A Versatile Timer (Marston) Sep 58
60-Hz Hum (ARE) Jun 12,(LET) Sep 16

A

ADC for your PC, Experimenting with (Barbarello)(C) Jan 59,Feb 65,(LET)Mar 14
AES: Audio Fact and Fantasy (Klein)(AUD) Mar 80
AM
Stereo, Syndicated Reviewers, and Consumer Fraud (Klein)(AUD) Oct 78
Ties for a Comeback (Feldman) Feb 48
Adobe Type Manager (Holtzman)(CC) Mar 90
Air Hop
The Light Beam Communicator (Kreuter)(C) Dec 51
AMATEUR TV
ATV Downconverter (Sheets and Graf)(C) Sep 79
ATV Linear Amp (Graf and Sheets)(C) Aug 67
Alternate Action Latches (Lancaster)(HH) Oct 79
Altimeter, Digital (Caristi)(C) May 50
AMPLIFIERS
Classic Video Revisited (Perez) Jun 57
Composite Audio Power (Kitchin)(C) Nov 38
Analog Switch Loss (ARE) Jun 12
Antenna, Sloping Vee (Formato)(C) Sep 71
Apple Family, The (QA) Sep 12
Apple's PhotoGrade (Lancaster)(HH) Sep 85
ASK R-E (D) Jan 12,Feb 12,Mar 12,Apr 12 May 12,Jun 12,Jul 10,Aug 14
AUDIO (SEE ALSO AUDIO UPDATE, RADIO)
Amp for your Car, Build this High-Power (Metz and Boyce)(C) Apr 31
FM Stereo Broadcaster (Stroud)(C) Jul 33
Handi-Talkie (Wray)(C) Oct 35
MIDI Interface for your PC (Simonton)(C) Mar 33
Composite Audio Power Amplifiers (Kitchin)(C) Nov 38
Crosstalk (QA) Oct 12
Light (ARE) Jan 12
Sloping Vee Antenna (Formato)(C) Sep 71
VFX Digital Signal Processor (Borax and Beck)(C) Sep 37
AUDIO ENGINEERING SOCIETY CONVENTION
AES: Audio Fact and Fantasy (Klein)(AUD) Mar 80
Let's Phase the Music: More from the AES Convention (Klein)(AUD) May 73
Testing the Testers (Klein)(AUD) Jun 76
AUDIO UPDATE (Klein)(D) Jan 73,Feb 85,Mar 80 Apr 70,May 73,Jun 76,Jul 82 Sep 92,Oct 78,Nov 78,Dec 94
AES: Audio Fact and Fantasy Mar 80
Audio Evaluations:
A Non-Mystical Approach Nov 78
Format Future Shock Sep 92
Hear Today, Gone Tomorrow Apr 70
It's a Matter of Hear Today, Gone Tomorrow Dec 94
Kit Era Passes:
Heath Pulls the Plug Jul 82
Let's Phase the Music:
More from the AES Convention May 73
More from the Mail Bag Feb 85
Reader Questions: Real and Imagined, Serious and Silly Jan 73
Syndicated Reviewers, AM Stereo, and Consumer Fraud Oct 78
Testing the Testers Jun 76
Automatic Voltage Sensing (ARE) Aug 14
AUTOMOTIVE
Build A Power Controller for Automotive Accessories (Sweeney)(C) Nov 57
Build This High Power Audio Amp for your Car (Metz and Boyce)(C) Apr 31
Car Battery Tester (Fox)(C) Jul 57
Regulators, Back to, and Forward to our Oscilloscope (Grossblatt)(DB) May 82
Voltage Regulators, More on (Grossblatt)(DB) Jan 75

B

Back to Automotive Regulators and Foward to our Oscilloscope (Grossblatt)(DB) May 82
Battery Tester, Car (Fox)(C) Jul 57
Beckman Industrial
DM10XL Digital Multimeter (ER) Sep 22
HD160 Digital Multimeter (ER) Dec 16
Breadboarding
JPC International TD107 Digital Designer (ER) Nov 22
BUILD A/THE/THIS
FM Stereo Broadcaster (Stroud)(C) Jul 33
Handi-Talkie (Wray)(C) Oct 35
High Power Audio Amp for your Car (Metz and Boyce)(C) Apr 31
Hyper Clock (Schmidt)(C) Feb 33
Microprocessor Development System (Dage)(C) Apr 57, May 57
MIDI Interface for your PC (Simonton)(C) Mar 33
Polapulse Recycler (Spiwak)(C) May 64
Power Controller for Automotive Accessories (Sweeney)(C) Nov 57
Reflex Timer (Kennedy)(C) Oct 43
Robot Bug (Sonntag and Chaney)(C) Jun 33
Snooper Stopper (Wolf)(C) Apr 37
Super Strobe (Simonton and Simonton)(C) Nov 31
Buyer's Guide to DMM's (Prentiss) May 31

C

CD-I (Holtzman)(CC) Dec 97
CD-ROM Science and Technical Reference Set, McGraw-Hill (ER) Jan 22
CD-to-Car-Radio Adapters (Larcaster)(HH) Jun 69
CDTV (Holtzman)(CC) Dec 97
CET EXAM
March 10: Electronics Technicians Day (Steckler) Mar 16
CABLE TV
Infamous Bullet (Foley) Jan 33
Build The Snooper Stopper (Wolf)(C) Apr 37
Call-Waiting Dilemma (ARE) May 12
Caller-ID
Circuit (Lancaster)(HH) Mar 73
Update (Lancaster)(HH) Feb 77
Capacitance Meter
PC-Based Test Bench (Wolfe)(C) Jul 41
Car Battery Tester (Fox)(C) Jul 57
Checker Computer-Monitor Tester, The (ER) Oct 16
Cheshire Cat, Multimedia, and Vision, The (Holtzman)(CC) Sep 97
Christmas Ornament
Glitter Globe (Holzwarth)(C) Dec 35
Classic Video Amps Revisited (Perez) Jun 57,(LET) Oct 14
Colorado Memory Systems Jumbo 250 (Holtzman)(CC) Sep 97
Commercial Limiter (ARE) Jan 12,(LET)May 16
Communicator, Light Beam (Kreuter)(C) Dec 51
Composite Audio Power Amplifiers (Kitchin)(C) Nov 38
CompuScope Lite PC Oscilloscope
Gage Applied Science (ER) Aug 22
COMPUTER (SEE ALSO COMPUTER CONNECTION, MULTIMEDIA)
ADC for your PC, Experimenting with (Barbarello)(C) Jan 59,Feb 65
Apple Family, The (QA) Sep 12
Apple's PhotoGrade (Lancaster)(HH) Sep 85
Build This
Microprocessor Development System (Dage)(C) Apr 57,May 57
MIDI Interface for your PC (Simonton)(C) Mar 33
CrossTalk for Windows 1.2 (Holtzman)(CC) Mar 90
Dallas Semiconductor Touch Memory Starter Kit (ER) Mar 24
Designer 3.1 (Holtzman)(CC) Mar 90
Experimenting with ADC for your PC (Barbarello)(C) Jan 59,Feb 65,(LET)Mar 14
From Not-Working to Networking (McClellan) Aug 55,Sep 53,Oct 65
Gage Applied Science CompuScope Lite PC Oscilloscope (ER) Aug 22
Global Specialties Photolab Release 3.0 (ER) Apr 24
GRiD GridPad RF Pen-Based PC (Holtzman)(CC) Feb 91
Hard-Disk Standards, The Inside Story on (Miller) Jun 63
IBM OS/2 (Holtzman)(CC) Aug 80
IBM OS/2 2.0 (Holtzman)(CC) Apr 80
ItWorks, NTSC (Holtzman)(CC) Nov 88
Lantastic 4.0 (Holtzman)(CC) Mar 90
Laser Printer Repairs (Lancaster)(HH) Apr 63
Local Bus (QA) Oct 12
Locked-Up Computer (QA) Nov 12
MIDI
Interface for your PC (Simonton)(C) Mar 33,(LET)Jul 12
Light Controller (Keefe)(C) May 41
McGraw-Hill CD-ROM Science and Technical Reference Set (ER) Jan 22
Microprocessor Development System (Dage)(C) Apr 57,May 57
Microsoft
Excel 4.0 (Holtzman)(CC) Aug 80
TrueType (Holtzman)(CC) Jun 84
Windows 3.1 (Holtzman)(CC) Jun 84
Word for Windows 2.0 (Holtzman)(CC) Mar 90
Monitors (Lancaster)(HH) Jan 67
Monitor Technology (Warner) Dec 69
-Monitor Tester, The Checker (ER) Oct 16
Monitor
Technology (Warner) Dec 69
Tester (Price)(C) Jan 47,(LET)Jun 14
OS/2 2.0
and Windows 3.1 (Holtzman)(CC) Jun 84
IBM (Holtzman)(CC) Apr 80
PC
Password Protection (Halten)(C) Jul 51
-Based Test Bench (Wolfe)(C) Jun 39,Jul 41,Aug 60,Oct 47
Speed Limit (ARE) Feb 12
PageAhead Software, InfoPublisher (Holtzman)(CC) Nov 85
Paper Softwares SideBar (Holtzman)(CC) Jan 84
Paragon Engineering LA16PC Logic Analyzer (ER) Jul 21

SideBar, Paper Software's (Holtzman)(CC) Jan 94
Speeding Cursor (QA) Sep 12
Sytron Corp. Sytos Plus (Holtzman)(CC) Sep 97
TrueType, Microsoft (Holtzman)(CC) Jun 94
VGA Adapter for the Mac LC (Lancaster)(HH) Jan 67
COMPUTER CONNECTIONS (Holtzman)(D)Jan 84,Feb 91,Mar 90 Apr 90,May 75,Jun 84 Jul 90,Aug 90,Sep 97 Oct 91,Nov 88,Dec 97
Cheshire Cat, Multimedia, and Vision Sep 97
Computers and Consumer Electronics Dec 97
Gigabyte Memory Storage Nov 88
Industry Evolution Mar 90
Miniature Multimedia Machines Oct 91
Multimedia Mayhem Jan 94
Pen-Based Computing Feb 91
Personal Digital Assistant, The May 75
Russian Dolls and the Virtual PC Jul 90
User Manifesto, A Aug 90
Will You OS/2 It? Apr 90
Windows 3.1, OS/2 2.0 Jun 94
CONSTRUCTION
250-Watt Power Inverter (Mellon) Oct 75
ATV
Downconverter (Sheets and Graf) Sep 79
Linear Amp (Graf and Sheets) Aug 67
Build
A Power Controller for Automotive Accessories (Sweeney) Nov 57
the Hyper Clock (Schmidt) Feb 33
The Polapulse Recycler (Spiwak) May 64
The Snooper Stopper (Wolf) Apr 37
This FM Stereo Broadcaster (Stroud) Jul 33
This Handi-Talkie (Wray) Oct 35
This High Power Audio Amp for your Car (Metz and Boyce) Apr 31
This Microprocessor Development System (Dage) Apr 57,May 57
This MIDI Interface for your PC (Simonton) Mar 33
This Reflex Timer (Kennedy) Oct 43
This Robot Bug (Sonntag and Chaney) Jun 33
This Super Strobe (Simonton and Simonton) Nov 31
Car Battery Tester (Fox) Jul 57
Composite Audio Power Amplifiers (Kitchin) Nov 36
Digital Altimeter (Caristi) May 50,(LET)Oct 14
Electronic Thermostat (Kreuter) Jun 53
Experimenting with ADC for your PC (Barbarello) Jan 59,Feb 65,(LET)Mar 14
Fax/Modem Protector (Petruzzellis) Dec 43
Glitter Globe (Holzwarth) Dec 35
Inrush Current Limiter (Wirth) Dec 47
Intelligent Phone-Line Monitor (Black) Mar 53,Apr 52
Light Beam Communicator (Kreuter) Dec 51
MIDI Light Controller (Keefe) May 41
Monitor Tester (Price) Jan 47
PC Password Protection (Hatten) Jul 51
PC-Based Test Bench (Wolfe) Jun 39,Jul 41,Aug 60,Oct 47
Remote Control for your Dog (Canino) Apr 47
Scanner Converter (Sheets and Graf) Feb 42,Mar 41
Single-Chip Messaging System (Tenney) Mar 59
Sloping Vee Antenna (Formato) Sep 71
Solid-State Relay (Kreuter) May 47
Speaker Mate (Plant) Jan 43
Surf Man (Simonton) Aug 33
Sweep/Function Generator (Lashansky) Jan 35,Feb 53
Telephone Hold Button (Green) Nov 45
Scrambler (Rosenmayer) Aug 37
Universal Remote Control (Eady) Nov 47
VFX Digital Signal Processor (Borax and Beck) Sep 37
Consultants Network (Lancaster)(HH) Sep 85
Consumer Fraud, Syndicated Reviewers, AM Stereo and (Klein)(AUD) Oct 76
Continuity Checker, 555-Based (Marston) Nov 61
Conventional Currents (Lancaster)(HH) Dec 77
Correlation Fundamentals (Lancaster)(HH) Aug 72
CrossTalk for Windows 1.2 (Holtzman)(CC) Mar 90
Crystal Oscillator (QA) Dec 12

D

DMM's, Buyer's Guide to (Prentiss) May 31
Dallas Semiconductor Touch Memory Starter Kit (ER) Mar 24
Descrambler, SSAVI Let's Get Back To Our (Grossblatt)(DB) Dec 88
Descrambling a SSAVI Signal Let's See What's Involved in (Grossblatt)(DB) Oct 88
Designer 3.1 (Holtzman)(CC) Mar 90
Differential Probe (Dorfman) Oct 61
Digi-Call Intelligent Phone-Line Monitor (Black)(C) Apr 52
DIGITAL
Altimeter (Caristi)(C) May 50,(LET) Oct 14
Designer, JPC International TD107 (ER) Nov 22
Image Processing (Lancaster)(HH) Oct 79
Logic IC Tester, T1004 PC-Based Test Bench (Wolfe)(C) Oct 47
Multimeter
Beckman Industrial DM10XL (ER) Sep 22
HD160 (ER) Dec 16
Kelvin 100K (ER) Feb 16
Scopes, Our Long-Lost Discussion on (Grossblatt)(DB) Feb 88
Signal Processor, VFX (Borax and Beck)(C) Sep 37
Tachometer Trouble (QA) Nov 12
Direct Toner (Lancaster)(HH) Aug 72
Distant FM Reception (Lancaster)(HH) Nov 68
Double- and High-Density Disks (QA) Sep 12,(LET) Dec 14
Downconverter, ATV (Sheets and Graf)(C) Sep 79
DRAWING BOARD (Grossblatt)(D) Jan 75,Feb 88,Mar 82 Apr 72,May 82,Jul 88,Aug 27 Sep 95,Oct 88,Nov 84,Dec 88
Back to Automotive Regulators and Foward to our Oscilloscope May 82
Let's
Add the Final Touches to Our Oscilloscope Jul 88
Build Our Own Video Scrambler! Nov 84
Explore the Mysteries of Video Scrambling Aug 27
Get Back To Our SSAVI Descrambler Dec 88
See What's Involved in Descrambling a SSAVI Signal Oct 88
Work on the Vertical Section of our Scope Apr 72
More on Automotive Voltage Regulators Jan 75
Our
Long-Lost Discussion on Digital Scopes Feb 88
Oscilloscope is Shaping Up Nicely Mar 82
Video Scrambling Sep 95
Driveway Alarm (ARE) May 12
Dycam Digital Camera (Holtzman)(CC) May 75
Dye-Based Solar Energy (Lancaster)(HH) Jul 75

E

EGA-VGA Adapter (ARE) Mar 12
EDITORIAL (Steckler)(D) Jul 4,Aug 4,Sep 4 Oct 4,Nov 4,Dec 4
Everything Changes Jul 4,Aug 4
It's Now or Never Nov 4,Dec 4
Now's the Time Sep 4,Oct 4
ELECTRONIC
Dice (ARE) Apr 12,(LET)Jul 12
Halftones (Lancaster)(HH) Sep 85
Technicians Day: March 10 (Steckler) Mar 16
Temperature Measurement (Trietley) Mar 46,Apr 40
Thermostat (Kreuter)(C) Jun 53
EQUIPMENT REPORTS (D) Jan 22,Feb 16,Mar 24, Apr 24,Jun 16,Jul 21,Aug 22 Sep 22,Oct 16,Nov 22,Dec 16
Beckman Industrial DM10XL Digital Multimeter Sep 22
HD160 Digital Multimeter Dec 16
Checker Computer-Monitor Tester Oct 16
Dallas Semiconductor Touch Memory Starter Kit Mar 24
Gage Applied Science CompuScope Lite PC Oscilloscope Aug 22
Global Specialties Photolab Release 3.0 Apr 24
JPC International TD107 Digital Designer Nov 22
Kelvin 100K Digital Multimeter Feb 16
McGraw-Hill CD-ROM Science and Technical Reference Set Jan 22
Multidyne TS-8-MTS TV Test-Signal Generator Jun 16
Paragon Engineering LA16PC Logic Analyzer Jul 21
Everything Changes (Steckler)(ED) Jul 4,Aug 4 Experimenting with ADC for your PC (Barbarello)(C) Jan 59,Feb 65,(LET)Mar 14

F

FM
Antenna (ARE) Jun 12
Antenna Range Contest (Lancaster)(HH) Aug 72
Stereo Broadcaster, Build This (Stroud)(C) Jul 33
Broadcasters (Lancaster)(HH) Jun 69
Transciever, The Handi-Talkie (Wray)(C) Oct 35
Yagi Antenna Design (Lancaster)(HH) Dec 77
Fax/Modem Protector (Petruzzellis)(C) Dec 43
Flyback Deflection (Lancaster)(HH) Jan 87
Format Future Shock (Klein)(AUD) Sep 92
Frequency Counter PC-Based Test Bench (Wolfe)(C) Jul 41
From Not-Working to Networking (McClellan) Aug 55,Sep 53,Oct 65,(LET)Nov 16
Freeze Frame Super Strobe (Simonton and Simonton)(C) Nov 31
Fuse Substitutions (ARE) Apr 12
GPS NAVIGATION
Resources (Lancaster)(HH) Jan 67
Update (Lancaster)(HH) Apr 63
Gage Applied Science CompuScope Lite PC Oscilloscope (ER) Aug 22,(LET) Oct 14
Gamma Curve Correction (Lancaster)(HH) Oct 79
Gigabyte Memory Storage (Holtzman)(CC) Nov 88
Glitter Globe (Holzwarth)(C) Dec 35
Global Specialties Photolab Release 3.0 (ER) Apr 24
GRiD GridPad RF Pen-Based PC (Holtzman)(CC) Feb 91

H

Hacking Super Nintendo (Lancaster)(HH) Apr 63
Handi-Talkie, Build This (Wray)(C) Oct 35
Hard-Disk Standards, The Inside Story on (Miller) Jun 63
Hard-Drive LED (ARE) Jul 10
HARDWARE (SEE COMPUTER)
HARDWARE HACKER (Lancaster)(D) Jan 67,Feb 77,Mar 73 Apr 63,Jun 69,Jul 75,Aug 63 Sep 85,Oct 79,Nov 68,Dec 77
Apple's PhotoGrade Sep 85
Caller ID Update Feb 77
Conventional Currents Dec 77
Distant FM Reception Nov 68
Dye-Based Solar Energy Jul 75
Histogram Equalization Oct 79
Laser Printer Repairs Apr 63
Santa Claus Machine BBS Aug 72
Super Nintendo Update Jun 69
Using the IC Master Mar 73
VGA Adapter for the Mac LC Jan 67
Hear Today, Gone Tomorrow (Klein)(AUD) Apr 70
Heath Pulls the Plug: The Kit Era Passes (Klein)(Aud) Jul 82
Histogram Equalization (Lancaster)(HH) Oct 79
Hold Button, Telephone (Green)(C) Nov 45
Hyper Clock, Build the (Schmidt)(C) Feb 33

I

IBM Video Scan Rates (QA) Dec 12
10 IC Master, Using the (Lancaster)(HH) Mar 73
ISCET March 10: Electronics Technicians ay (Steckler) Mar 16
Industry Evolution (Holtzman)(CC) Mar 90
Inrush Current Limiter (Wirth)(C) Dec 47
Inside Story on Hard-Disk Standards, The (Miller) Jun 63
Intelligent Phone-Line Monitor (Black)(C) Mar 53,Apr 52
It's a Matter of Hear Today, Gone Tomorrow (Klein)(AUD) Dec 94
It's Now or Never (Steckler)(ED) Nov 4,Dec 4
ItWorks, NTSC (Holtzman)(CC) Nov 88

J

JPC International TD107 Digital Designer (ER) Nov 22

K

Kelvin 100K Digital Multimeter (ER) Feb 16
Kit Era Passes: Heath Pulls the Plug (Klein)(Aud) Jul 82

L

LED Display Drivers, Working with (Marston) Mar 65,May 65
LED's, Working with (Marston) Jan 50,Feb 69
Lantastic 4.0 (Holtzman)(CC) Mar 90
Laser Printer Repairs (Lancaster)(HH) Apr 63
Let's
Add the Final Touches to Our Oscilloscope (Grossblatt)(DB) Jul 88
Build Our Own Video Scrambler! (Grossblatt)(DB) Nov 84
Explore the Mysteries of Video Scrambling (Grossblatt)(DB) Aug 27
Get Back To Our SSAVI escrambler (Grossblatt)(DB) Dec 88
Phase the Music: More from the AES Convention (Klein)(AUD) May 73
See What's Involved in Descrambling a SSAVI Signal (Grossblatt)(DB) Oct 88
Work on the Vertical Section of our Scope (Grossblatt)(DB) Apr 72
LETTERS (D) Jan 14,Feb 14,Mar 14,Apr 16 May 16,Jun 14,Jul 12,Aug 20 Sep 16,Oct 14,Nov 16,Dec 14
LIGHT
Alarms, 555 Oscillators (Marston) Nov 61
Beam Communicator (Kreuter)(C) Dec 51
Controller, MIDI (Keefe)(C) May 41
Linear Amp, ATV (Graf and Sheets)(C) Aug 67
Line-Level Difference (QA) Oct 12
Local Area Networks From Not-Working to Networking (McClellan) Aug 55,Sep 53,Oct 65
Local Bus (QA) Oct 12
Locked-Up Computer (QA) Nov 12

Logic Analyzer, Paragon Engineering LA16PC (ER) Jul 21
Lots of Switching Q&A (QA) Nov 12
Lumeloid and Lepcon Films (Lancaster)(HH) Feb 77

M

MIDI
Interface for your PC (Simonton)(C) Mar 33,(LET)Jul 12
Light Controller (Keefe)(C) May 41
MTS Stereo (QA) Dec 12
March 10: Electronics Technicians Day (Steckler) Mar 16
Marketing Your Ideas (Lancaster)(HH) Sep 85
McGraw-Hill CD-ROM Science and Technical Reference Set (ER) Jan 22
Measuring Real Power (Lancaster)(HH) Feb 77
Messaging System, Single Chip (Tenney)(C) Mar 59
Metronome, 555-Based (Marston) Nov 61
Micro-Avionics Newsletters (Lancaster)(HH) Jul 75
Microprocessor Development System (Dage)(C) Apr 57,May 57
Microsoft
Excel 4.0 (Holtzman)(CC) Aug 80
TrueType (Holtzman)(CC) Jun 84
Windows 3.1 (Holtzman)(CC) Jun 84
Word for Windows 2.0 (Holtzman)(CC) Mar 90
Miniature Multimedia Machines (Holtzman)(CC) Oct 91
Modem/Fax Protector (Petruzzellis)(C) Dec 43
Monitor
Technology (Warner) Dec 69
Tester (Price)(C) Jan 47,(LET)Jun 14
More
From the AES Convention: Let's Phase the Music (Klein)(AUD) May 73
from the Mail Bag (Klein)(AUD) Feb 85
on Automotive Voltage Regulators (Grossblatt)(DB) Jan 75
Motor Speed Controller (ARE) Feb 12,(LET)May 16
Multidyne TS-8-MTS TV Test-Signal Generator (ER) Jun 16
MULTIMEDIA
CD-I (Holtzman)(CC) Dec 97
CD-ROM Science and Technical Reference Set, McGraw-Hill (ER) Jan 22
CDTV (Holtzman)(CC) Dec 97
Cheshire Cat, Multimedia, and Vision (Holtzman)(CC) Sep 97
Devices (Holtzman)(CC) Dec 97
Machines, Miniature (Holtzman)(CC) Oct 91
Mayhem (Holtzman)(CC) Jan 84
VIS (Holtzman)(CC) Dec 97

N

Navigation and Navicubes (Lancaster)(HH) Dec 77
Neo-Geo Interface Cables (Lancaster)(HH) Jul 75
Networking, From Not-Working To (McClellan) Aug 55,Sep 53,Oct 53
NEW LIT (D) Jan 30,Feb 27,Mar 30,Apr 29 May 28,Jun 28,Jul 30,Aug 30 Sep 33,Oct 32, Nov 28,Dec 32
NEW PRODUCTS (D) Jan 24,Feb 22,Mar 26,Apr 26 May 24,Jun 22,Jul 22,Aug 24 Sep 24,Oct 22,Nov 24,Dec 22
Now's the Time (Steckler)(ED) Sep 4,Oct 4

O

OS/2 2.0
and Windows 3.1 (Holtzman)(CC) Jun 84
IBM (Holtzman)(CC) Apr 80
Ockham's Razor Revisited (Lancaster)(HH) Jun 69
One-Inch Recorder Heads (ARE) Aug 14
Optocoupler Devices (Marston) Aug 44
Optoelectronics
Working With LED Display Drivers (Marston) Mar 65,May 65
LED's (Marston) Jan 50,Feb 69
Oscillator Circuits, 555-based (Marston) Oct 69
OSCILLOSCOPE
Back to Automotive Regulators and Foward to our (Grossblatt)(DB) May 82
CompuScope Lite PC, Gage Applied Science (ER) Aug 22
is Shaping Up Nicely, Our (Grossblatt)(DB) Mar 82
Let's Add the Final Touches to Our (Grossblatt)(DB) Jul 58
Our Long-Lost Discussion on Digital Scopes (Grossblatt)(DB) Feb 86
Our Oscilloscope is Shaping Up Nicely (Grossblatt)(DB) Mar 82

P

PC Password Protection (Hatten)(C) Jul 51
PC-Based Test Bench (Wolfe)(C) Jun 39,Jul 41,Aug 60,Oct 47
PageAhead Software, InfoPublisher (Holtzman)(CC) Nov 88
Paper Software's SideBar (Holtzman)(CC) Jan 84
Paragon Engineering LA16PC Logic Analyzer (ER) Jul 21
Patents (Lancaster)(HH) Jul 75
Pen-Based Computing (Holtzman)(CC) Feb 91
Perpetual Motion (Lancaster)(HH) Feb 77
Personal Digital Assistant, The (Holtzman)(CC) May 75
Phone-Line Monitor, Intelligent (Black)(C) Apr 52,Mar 53
PHOTOGRAPHY
Build This Super Strobe (Simonton and Simonton)(C) Nov 31
Photo CD (Holtzman)(CC) Dec 97
Photolab Release 3.0, Global Specialties (ER) Apr 24
Photosensitive Devices (Marston) Jul 63
Piano and Organ Resources (Lancaster)(HH) Mar 73
Pick Up The Heartbeat (ARE) Jul 10
Piezo Rate Gyros (Lancaster)(HH) Dec 77
Pocket-Stereo Amp (ARE) Aug 14,(LET)Nov 16,(LET)Dec 14
Polapulse Recycler, Build The (Spiwak)(C) May 64
Power
Controller for Automotive Accessories, Build A (Sweeney)(C) Nov 57
Inverter, 250-Watt (Melton)(C) Oct 75
Supply Repair (ARE) Jan 12
Probe, Differential (Dorfman) Oct 61
Pseudoscience Research (Lancaster)(HH) Nov 68

Q

Q&A (D) Sep 12,Oct 12,Nov 12,Dec 12
Qic-40 Tape Backup (QA) Dec 12

R

RF Spectrum Prepped for Next Century: WARC 92 (Leinwoll) Jul 38
RGB Monitor Fundamentals (Lancaster)(HH) Jul 75
RADIO
AM Tries for a Comeback (Feldman) Feb 48
Scanner Converter (Sheets and Graf)(C) Feb 42,Mar 41
WARC 92: RF Spectrum Prepped For Next Century (Leinwoll) Jul 38
Reader Questions: Real and Imagined, Serious and Silly (Klein)(AUD) Jan 73
Reflex Timer, Build This (Kennedy)(C) Oct 43
Relay, Solid-State (Kreuter)(C) May 47
REMOTE CONTROL
for your Dog (Canino)(C) Apr 47
Universal (Eady)(C) Nov 47
Robot Bug, Build This (Sonntag and Chaney)(C) Jun 33
Russian Dolls and the Virtual PC (Holtzman)(CC) Jul 90

S

SSAVI
Descrambler, Let's Get Back to Our (Grossblatt)(DB) Dec 88
Signal, Let's See What's Involved in Descrambling (Grossblatt)(DB) Oct 88
Santa Claus Machine BBS (Lancaster)(HH) Aug 72
Scanner Converter (Sheets and Graf)(C) Feb 42,Mar 41
Schmitt Trigger (Marston) Nov 61
Scrambler, Telephone (Rosenmayer)(C) Aug 37
Semiconductor IC Houses (Lancaster)(HH) Oct 79
Shields and Shielding (Lancaster)(HH) Jan 67
SideBar, Paper Software's (Holtzman)(CC) Jan 84
Simple Charger (ARE) May 12
Single-Chip Messaging System (Tenney)(C) Mar 59
Sloping Vee Antenna (Formato)(C) Sep 71
Snooper Stopper, Build The (Wolf)(C) Apr 37,(LET)Sep 16
SOFTWARE
Dallas Semiconductor Touch Memory Starter Kit (ER) Mar 24
Global Specialties Photolab Release 3.0 (ER) Apr 24
IBM OS/2 (Holtzman)(CC) Aug 80
IBM OS/2 2.0 (Holtzman)(CC) Apr 80
Industry Evolution (Holtzman)(CC) Mar 90
McGraw-Hill CD-ROM Science and Technical Reference Set (ER) Jan 22
Multimedia Mayhem (Holtzman)(CC) Jan 84
Lantastic 4.0 (Holtzman)(CC) Mar 90
Sytron Corp. Sytos Plus (Holtzman)(CC) Sep 97
SOFTWARE (SEE COMPUTER)
Solid-State Relay (Kreuter)(C) May 47,(LET)Sep 16
Speaker Mate (Plant)(C) Jan 43
Speeding Cursor (QA) Sep 12
Strobe, Super (Simonton and Simonton)(C) Nov 31 Super
Nintendo Update (Lancaster)(HH) Jun 69
Super Strobe (Simonton and Simonton)(C) Nov 31
Surf Man (Simonton)(C) Aug 33
Surge Suppressor, Fax/Modem (Petruzzellis)(C) Dec 43
pg. 0
Surplus Resources (Lancaster)(HH) Jul 75
Sync-Separator Circuit (Lancaster)(HH) Apr 63
Sweep/Function Generator (Lashansky)(C) Jan 35,Feb 53
Synchronous Rectifier Ideas (Lancaster)(HH) Aug 72
Syndicated Reviewers, AM Stereo, and Consumer Fraud (Klein)(AUD) Oct 78

T

T1000 Universal Interface Card PC-Based Test Bench (Wolfe)(C) Jun 39
T1003 Interface PC-Based Test Bench (Wolfe)(C) Aug 60
T1004 Digital Logic IC Tester PC-Based Test Bench (Wolfe)(C) Oct 47
TELEPHONE
Intelligent Phone-Line Monitor (Black)(C) Mar 53,Apr 52
Hold Button (Green)(C) Nov 45
Telephone Scrambler (Rosenmayer)(C) Aug 37
Speaker Mate (Plant)(C) Jan 43
TELEVISION
Cable TV's Infamous Bullet (Foley) Jan 33
TV/FM Booster Circuits (Lancaster)(HH) Nov 68
TV Test-Signal Generator, Multidyne TS-8-MTS (ER) Jun 16
Temperature
Alarms, 555-based (Marston) Nov 61
Measurement, Electronic (Trietley) Mar 46,Apr 40
Test Bench, PC-Based (Wolfe)(C) Jun 39,Jul 41,Aug 60,Oct 47
TEST EQUIPMENT
Back to Automotive Regulators and Foward to our Oscilloscope (Grossblatt)(DB) May 82
Beckman Industrial DM10XL Digital Multimeter (ER) Sep 22
HD160 Digital Multimeter (ER) Dec 16
Buyer's Guide to DMM's (Prentiss) May 31
Car Battery Tester (Fox)(C) Jul 57
Checker Computer-Monitor Tester, The (ER) Oct 16
Differential Probe (Dorfman) Oct 61
Gage Applied Science CompuScope Lite PC Oscilloscope (ER) Aug 22
Kelvin 100K Digital Multimeter (ER) Feb 16
Let's Add the Final Touches to Our Oscilloscope (Grossblatt)(DB) Jul 58
Let's Work on the Vertical Section of our Scope (Grossblatt)(DB) Apr 72
Monitor Tester (Price)(C) Jan 47
Multidyne TS-8-MTS TV Test-Signal Generator (ER) Jun 16
Our Long-Lost Discussion on Digital Scopes (Grossblatt)(DB) Feb 86
Our Oscilloscope is Shaping Up Nicely (Grossblatt)(DB) Mar 82
PC-Based Test Bench (Wolfe)(C) Jul 41,Aug 60,Oct 47
Sweep/Function Generator (Lashansky)(C) Jan 35,Feb 53
Tester, Car Battery (Fox)(C) Jul 57
Testing the Testers (Klein)(AUD) Jun 76
Thermostat, Electronic (Kreuter)(C) Jun 53
TIMER IC'S
555: A Versatile Timer (Marston) Sep 56
Timer, Reflex (Kennedy)(C) Oct 43
Top-Octave Generators (Lancaster)(HH) Mar 73
Touch Memory Starter Kit Dallas Semiconductor (ER) Mar 24
Turn-Signal Amplifier (ARE) Apr 12,(LET)Sep 16,(LET)Dec 14

U

UFO Resources Listing (Lancaster)(HH) Nov 68
UHF and VHF Amplifiers (Lancaster)(HH) Nov 68
Universal Remote Control (Eady)(C) Nov 47
User Manifesto, A (Holtzman)(CC) Aug 80
Using the IC Master (Lancaster)(HH) Mar 73

V

VFX Digital Signal Processor (Borax and Beck)(C) Sep 37
VGA Adapter for the Mac LC (Lancaster)(HH) Jan 67
VIS (Holtzman)(CC) Dec 97
Versatile 555, The (Marston) Dec 62
VIDEO (SEE ALSO TV, VIDEO NEWS)
ATV Downconverter (Sheets and Graf)(C) Sep 79
Linear Amp (Graf and Sheets)(C) Aug 57
Amps Revisited, Classic (Perez) Jun 57

Cable TV's Infamous Bullet (Foley) Jan 33
Let's See What's Involved in Descrambling a SSAVI Signal (Grossblatt)(DB) Oct 88
Fader (ARE) Mar 12
IC's (QA) Sep 12
Interface Module (Lancaster)(HH) Apr 63
Mixer (ARE) Jul 10
Scrambler, Let's Build Our Own! (Grossblatt)(DB) Nov 84
Scrambling (ARE) Jun 12
Scrambling (Grossblatt)(DB) Sep 95
Scrambling, Let's Explore the Mysteries of (Grossblatt)(DB) Aug 27
VIDEO NEWS (D) Jan 6,Feb 6,Mar 6,Apr 6 May 6,Jun 6,Jul 8,Aug 12
Sep 8,Oct 8,Nov 6,Dec 8
Virtual PC, the, and Russian Dolls (Holtzman)(CC) Jul 90
W
WARC 92: RF Spectrum Prepped For Next Century (Leinwoll) Jul 38
Wavelet
Shareware (Lancaster)(HH) Feb 77
Update (Lancaster)(HH) Mar 73
WHAT'S NEWS (D) Jan 4,Feb 4,Mar 4,Apr 4 May 4,Jun 4,Jul 6,Aug 6
Sep 5,Oct 6,Nov 5,Dec 6
Will You OS/2 It? (Holtzman)(CC) Apr 80
Windows 3.1, OS/2 2.0 (Holtzman)(CC) Jun 84
Word for Windows 2.0 (Holtzman)(CC) Mar 90
Working With
LED Display Drivers (Marston) Mar 65, May 65
LED's (Marston) Jan 50,Feb 69
555, The Versatile (Marston) Dec 62
World Administrative Radio Conference
WARC 92: RF Spectrum Prepped For Next Century (Leinwoll) Jul 38

WORLD BAND RECEIVER

continued from page 38

in Fig. 8-a) in the center series arm. This is the most important bandpass filter in the receiver and it must be aligned correctly.

Check the filter in the receiver by listening with the headphones for a stable signal within the 16.45 to 17.1 MHz range. The 11th harmonic at 16.5 MHz of the band 5 (refer to Fig. 4-d) oscillator/divider output of 1.5 MHz will be satisfactory.

Tune across the band while monitoring the DC voltage on the detector AGC line. The voltage should rise very rapidly to more than 5 volts, hold steady, and then drop rapidly to zero. With a frequency counter connected to capacitor C48 and a voltmeter calibrated in decibels on the AGC line, verify that your filter output matches the curve in Fig. 9.

Obtain an RF signal generator and an RF voltmeter. Mount the four inductors on the copper-clad side of the 1 × 3-inch board 4. Then connect the end capacitors (fixed and variable) as shown in Fig. 10. To check the LC resonant circuit at each end, set the RF generator to the filter's mid frequency (16.772 MHz) and adjust the 1—16 pF capacitor in parallel with the 110 pF capacitor that forms C1 for a peak reading (parallel resonance) on the RF voltmeter.

Now connect inductor L4 and the two capacitors forming C2 (a 39 pF capacitor in parallel with a 1 to 16 pF capacitor) shown in Fig.11. Set the RF signal generator for 17.897 MHz, and adjust for a null (series resonance). Repeat this step with L5 and C3 tuning for a null at 15.713 MHz. Then without changing capacitor settings, connect the filter components in their final positions as shown in Fig. 8-b. Frequencies for the other bands are shown in Table 2.

The first mixer converts each of the popular shortwave bands to the 16.45 to 17.1 MHz range. The mixer in this receiver is a double-balanced mixer.

Filter construction

Build the four crystal-controlled oscillators that tune the six bands of the receiver by referring to the schematics in Fig. 4. Note that 7 MHz-crystals are used in both the band 1 and 2 oscillators (XTAL 7 and XTAL 8), but a 10 MHz crystal (XTAL9) is used in the band 3 oscillator (Fig. 4-c). The oscillator in Fig. 4-d is able to provide three different frequencies because of its output countdown circuitry (IC8, IC9, IC10 and IC11).

Filter details are given in Table 2. Filters are built with fixed-value capacitors and tuning is accomplished by adjusting the position of the wire turns on the toroid cores. Compressing the turns to less than 360 degrees of the toroid's circumference increases their inductance and lowers their resonant frequency.

For example, compressing a coil whose turns are spread out over 360° down to about an angle of coverage of about 120 degrees increases the inductance 75%, shifting the frequency 32% lower. Follow the procedure outlined for the first IF bandpass filter, but use the frequencies listed in Table 2. Filter components are mounted directly on the 6 × 3 ¼-inch circuit board 1. (See Figs. 1 and 2.)

Automatic gain control

Refer to Fig. 3 and build the automatic gain control (AGC) circuit last. It allows this receiver to cope with a wide range of signal strengths while the listener tunes across the band. The volume control knob can be left in a fixed position and all tuning can be done with the TUNE control.

Set the 10K potentiometer, R68, for 5 volts DC at the cathode of diode D5 with no signal input to the receiver. This level will increase to about 6 volts in the presence of strong signals, causing a reduction in the gain of the IF amplifiers. Refer to Fig. 12 and build the 9.83 MHz crystal filter on board 5 whose dimensions are given in Table 1.

Precision tuning dial

Cut and bend a mounting bracket for the air-dielectric tuning capacitor C49 from aluminum stock and drill a hole in it to accept the capacitor shaft and two holes at its base flange ¼ inch back from the front edge so it can be mounted to the baseplate as shown in Fig. 13. (Capacitor C49 is part of the variable-frequency oscillator circuit.)

Mount tuning capacitor C49 on the bracket positioned about 1¼ inches behind the front panel as shown in Fig. 13. The tuning capacitor is rotated by an assembly shown in Fig. 13 consisting of a 3-inch diameter pulley turned by a nylon cord wound over the tuning knob spindle and located in the vee groove of the pulley.

The pulley can turned from sheet plastic in a lathe or a suitable one might be obtained from electronic salvage. Two slots cut in the edge of the pulley allow the cord ends to pass through the wall of the vee-groove for fastening. A small

continued on page 86